UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,842	09/06/2000	Kiyoshi Ueyoko	0229-0608P	9804

7590 11/13/2003

Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER	
FISCHER, JUSTIN R	
ART UNIT	**PAPER NUMBER**
1733	15

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO 15

Office Action Summary	Application No.	Applicant(s)	
	09/655,842	UEYOKO ET AL.	
	Examiner	Art Unit	
	Justin R Fischer	1733	

-- Th MAILING DATE of this communication appears on th cover sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6 and 7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 7* is/are allowed.

6)☒ Claim(s) *1* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara (US 6,273,162, of record) in view of Kuroda (US 4,088,169, of record) and optionally in view of Lejeune (US 3,949,800, of record). As best depicted in Figure 1, Ohara depicts a pneumatic tire construction comprising a pair of bead portions 5, a carcass 9 including a single radial ply of cords and formed of a main and turnup portion, a rubber bead apex 10, and a fiber reinforced rubber spacer/layer 19 formed of organic fiber yarns, wherein said carcass turnup portion 9B extends radially beyond the outer end of the bead apex and adjoins the main carcass portion 9A (Column 4, Lines 17-28). In this instance, the fiber reinforced rubber spacer is wound around the bead core at least once and as depicted in Figure 3, an embodiment in which said layer is wound twice is depicted. One of ordinary skill in the art at the time of the invention would have found it obvious to wind said layer between 2 and 3 times absent any conclusive showing of unexpected results depending on the desired spacing from the bead core. Ohara, however, fails to suggest the inclusion of a rubber layer between the fiber reinforced spacer and the bead core. In any event, it is extremely well known in the tire industry to provide the claimed rubber layer between a fiber reinforced rubber spacer and a bead core, as shown for

example by Kuroda (Figure 3b and Column 4, Lines 10-20). In particular, Kuroda suggests that the rubber layer functions as a stress absorbing layer that improves the bead durability. Lejeune is optionally applied to further evidence the well known use of a rubber layer between a fiber reinforced rubber spacer and a bead core- in this instance, Lejeune suggests that the rubber layer contributes to improved stability of the bead shape. Thus, in view of the recognized benefits of including a rubber layer between a fiber reinforced rubber spacer and a bead core, one of ordinary skill in the art at the time of the invention would have found it obvious to include a rubber layer in the bead construction of Ohara, there being a reasonable expectation of success of obtaining the recognized benefits in the tire construction of Ohara.

Regarding the distance "L1", while Ohara fails to expressly disclose this distance, the broad range of the claimed invention suggests a conventional design parameter that is used extensively in similar bead structures. For example, Kuroda teaches a similar structure in which a rubber layer is disposed between a fiber reinforced rubber spacer and a bead core. In this instance, the reference suggests that the rubber layer, which defines the distance "L1" in Kuroda, can have a thickness that ranges between 0.7 and 6 times the diameter of the bead core reinforcing element (Abstract). Thus, it is clearly evident that almost all of the embodiments detailed by Kuroda would have a distance "L1" that was greater than 0.05 times the bead core height. Therefore, applicant defines a broad and conventional range that is expressly suggested by Kuroda and as such, one of ordinary skill in the art at the time of the invention would have found it obvious to include a rubber layer defining the distance "L1" as required by the claimed invention.

As to the hardness of the rubber layer, a variety of rubber layers, including those with a lower, the same, or a higher hardness value, as compared to the bead apex rubber, have been used between the wound fiber reinforced rubber spacer and the bead core. Kuroda states that the rubber layer should have a hardness that is at least equal to the lower hardness of the coating rubber of either one of a rubberized metal cord layer and the rubberized fabric (Column 4, Lines 12-16), suggesting a plurality of embodiments in which the rubber layer hardness is the same, lower, or higher than the bead apex hardness. Also, Lejeune describes a similar rubber layer in which the apex rubber has a lower hardness than the rubber layer or stuffing rubber (Column 3, Lines 63-68). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the rubber layer of Ohara out of a harder rubber, as compared to the bead apex rubber, since it is well known to use many types of rubber, including harder rubbers in view of Kuroda and Lejeune, and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the hardness relationship of the claimed invention, wherein one of ordinary skill in the art at the time of the invention would have been able to select the appropriate rubber in view of the desired reinforcement in the bead portion.

Lastly, as previously stated, Ohara recognizes the ability to provide a bead fabric having multiple windings, specifically stating "a single layer at least". While the reference describes a preferred use of two windings, as depicted in Figure 3, Ohara provides a more general teaching that multiple windings (at least one) can be included, wherein the number of windings would be dependent on the desired spacing between

the bead core and the carcass plies. Thus, the use of between 2 and 3 windings would have been within the purview of one of ordinary skill in the art at the time of the invention in view of Ohara, there being no conclusive showing of unexpected results to establish a criticality for such a construction.

Allowable Subject Matter

3. Claims 6 and 7 are allowed. The reasons for allowance have been previously set forth in Paper Number 12, Paragraph 3.

Response to Arguments

4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. The rejection of claim 1 using Iuchi has been withdrawn in view of the amendment submitted by applicant on September 30, 2003.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397** (if after December 18, 2003, (571) 272-1215). The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Justin Fischer

November 5, 2003

JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300